

Serial No.: 10/089,072
Atty. Docket No.: P67777US0

REMARKS

The Final Office Action mailed December 23 2003, has been carefully reviewed and by this Amendment, claims 8-10 and 12-19 have been amended. Accordingly, claims 8-27 remain pending in the application. In view of the foregoing amendments and the following remarks, favorable consideration and allowance of this application is respectfully requested.

The Examiner objected to the drawings as containing various informalities which Applicant has corrected herein. These changes include clarification of the surfaces intended to be designated by reference numerals "12" and "22", namely that "12" (not 10) designates the outer surface of the shaft 10, while "22" designates the inner surface of the sleeve 20, as indicated in red on the attached drawing. Favorable consideration and entry of such changes are requested.

The Examiner objected to the specification as failing to comply with 37 C.F.R. 1.71 and 1.75(d)(1) because the detailed description does not provide proper antecedent basis for particular subject matter identified by the Examiner in certain of the claims. Each of the lettered objections will be addressed in sequence.

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With respect to the objection designated by the letter "a", amendments have been made to bring the terminology of claim 8 into greater conformity with the terminology used in the specification. However, Applicant maintains that the term "shaft sleeve", which appears to be the basis for the Examiner's objections, is supported by the specification as will now be discussed.

The specification identifies the outer surface of the shaft 12 as the surface layer 50, while claim 8 without the present amendment used the term "shaft sleeve" for the surface layer. As discussed in the specification at page 4, lines 7-14, the outer surface layer 50 may be in the form of a tombak sleeve which may, upon melting, be easily drawn off the shaft and replaced. Therefore, reference to the surface layer 50 as a sleeve is supported in the specification and, since such tombak sleeve is on the shaft, the phrase "shaft sleeve" is inherent as a description of this removable surface layer. Furthermore, claim 1 as originally filed specified that the surface layer 50, e.g., a tombak sleeve, has a plasticizing limit which is substantially lower than the plasticizing limit of the material in the co-acting surface 22 of the sleeve part 20; this text was added to the specification at page 2, line 31, by Applicant's

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Amendment filed December 3, 2003. Hence, the specification provides antecedent basis for the shaft sleeve or the surface layer 50 having a plasticizing limit which is lower than a plasticizing limit of the inner surface of the outer sleeve 20. Nonetheless, in an effort to provide the greatest clarity, Applicant has amended claim 8 to refer to the structure designated by the reference numeral 50 as the "surface layer" rather than as a shaft sleeve. Favorable consideration and withdrawal of the objection are requested.

Applicant submits that with the clarification of the shaft sleeve as being commensurate with the surface layer 50, the basis of the Examiner's remaining objections has also been removed, again assuming the difficulty lies with the previous "shaft sleeve" terminology. However, for completeness, each of the subsequent objections will now be addressed.

Turning to the objection listed as "b", support for claims 10, 12 and 21 is found in the specification at page 3, line 7. Support for claims 11 and 22 is found in the specification at page 3, line 9, and claim 18 is supported in the specification at page 4, lines 7-14.

In regard to objection "c" and claims 14, 17, 24 and 27, the identification of grooves disposed around the

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circumference of the surface layer was found in claim 3 as originally filed; corresponding text was added to the specification at page 2, line 31, by Applicant's Amendment filed December 3, 2003. Support is also found in the specification at page 3, lines 9-10.

As for objection "d", support for claims 16 and 26 is found in the specification at page 3, lines 12-25, claims 2 and 6 as originally filed, and the corresponding text added to the specification at page 2, line 31, by Applicant's Amendment filed December 3, 2003.

The removability of the outer surface layer, identified in objection "e", is described in the specification at page 4, lines 7-14, where the tombak sleeve is stated to be easily drawn off, upon melting thereof, and replaced.

Finally, with respect to objections "f" and "g", the designation of the plasticizing limits as "first" and "second" was implemented to enhance the definiteness of claim 19 in accordance with 35 U.S.C. 112, second paragraph. Such a designation does not introduce substantive matter, but is only used to succinctly clarify the distinction between the two plasticizing limits and to indicate which limit is being referenced. The specification clearly provides that the

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plasticizing limit of the outer surface layer 50 is lower than the plasticizing limit of the inner surface 22 of the sleeve 20 (see page 3, lines 3-6; claim 1 as originally filed; and the text added to the specification at page 2, line 31, by Applicant's Amendment filed December 3, 2003 and corresponding to claim 1). Therefore, the designation in claim 19 of one of the limits as a "first" limit and the other as a "second" limit does not introduce unsupported subject matter, but only clarifying nomenclature.

In summary, the claims are supported by the specification and withdrawal of the objection to the specification is requested.

The Examiner rejected claims 8-27 under 35 U.S.C. 112, first paragraph, as not complying with the written description requirement, noting in particular claims 1 and 19.

In that claim 1 has been canceled, Applicant assumes that the Examiner is referring to claim 8. The language at issue in claim 8, "a shaft having a shaft sleeve affixed thereon", has been clarified as already discussed above to refer to the "surface layer" rather than the "shaft sleeve", and is representatively supported in the specification at page 3, lines 4-6, and page 4, lines 7-14.

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With respect to claim 19, the language referred to under "b" has been modified to more nearly parallel the description in the specification which is found on page 2, lines 14-16 and lines 25-31. As for the last line relative to the sleeve rotating free from contact with the shaft, such free rotation of the sleeve 20 is supported in the specification at page 3, lines 19-25.

The Examiner rejected claims 8-27 under 35 U.S.C. 112, first paragraph, as not complying with the enablement requirement, identifying specifically the limitation found in claims 8 and 19 pertaining to the pump mechanism and the lack of explanation in the specification as to how to make such a pump mechanism. Applicant respectfully submits that the pump mechanism included in these claims can be any one of several known structures, including that shown in U.S. Patent No. 5,069,320 (the '320 patent) incorporated by reference in the present application, as well as that summarized on page 5 of the specification, and that persons of ordinary skill in the art would know how to make and use such pump mechanisms.

As described in the '320 patent, the pump mechanism operates to provide oil to the domain of engagement between cylindrical part 3 and the sleeve 5 so as to form a hydrostatic layer therebetween when relative rotation occurs. This is the

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same function described in conjunction with the pump mechanism set forth in the present disclosure. In that this pump mechanism is known, detailed description of the construction of this pump mechanism is not necessary to enable a person of ordinary skill in the art to make and use the present invention as claimed.

Particularly, Applicant's invention does not lie in the operation or construction of the pumps, but rather in the avoidance of catastrophic damage to the shaft in the event that the pumps do not operate properly. Through use of a brass sleeve or surface layer 50 on the shaft, such surface layer being readily plasticized, the coupling parts are permitted to rotate relative to one another in the absence or insufficiency of oil at the interface B between the surfaces 12, 22. In this way, the basic structure of the coupling will remain intact with only the surface layer degrading, which layer 50 may be readily removed and replaced. Hence, pump operation, or more specifically the failure of intended pump operation, is the problem being addressed by the present invention but does not represent what Applicant considers to be his present invention.

There being no prior art rejection of the claims, with the amendments and explanations set forth herein, the application is in condition for allowance, making entry of the foregoing amendments proper after final action.

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Should the Examiner have any questions or comments, the Examiner is cordially invited to telephone the undersigned attorney so that the present application can receive an early Notice of Allowance.

Respectfully submitted,

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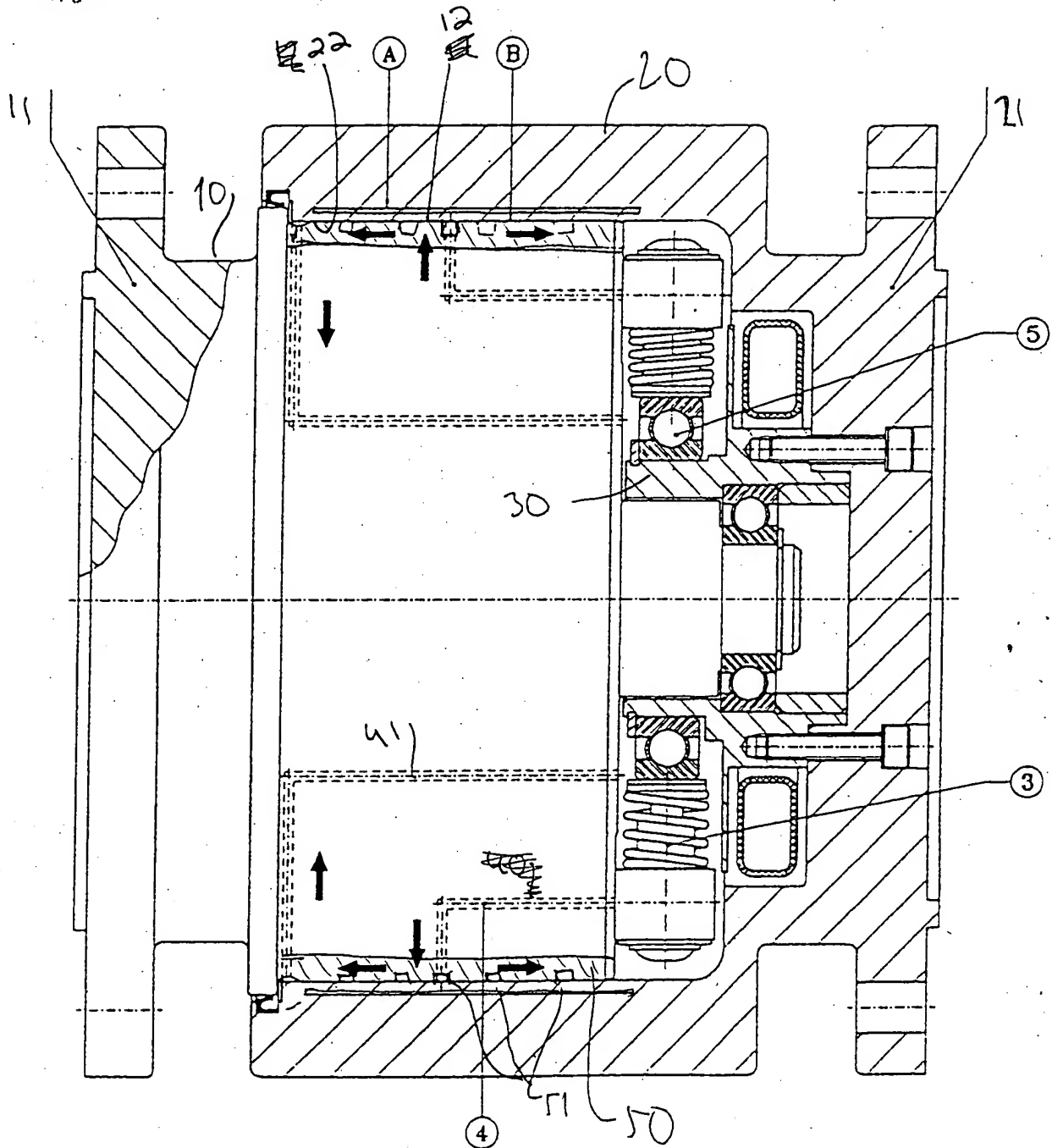


Fig 1.